


FILED**MAR 16 2022****CLERK, U.S. DISTRICT COURT
WESTERN DISTRICT OF TEXAS
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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

SONRAI MEMORY LIMITED,
PLAINTIFF,

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1:22-CV-94-LY

v.

ORACLE CORPORATION,
DEFENDANT.

MEMORANDUM IN SUPPORT OF CLAIM CONSTRUCTION ORDER

Before the court is the above-referenced cause, which was transferred to this court from the Waco Division of the United States District Court for the Western District of Texas on February 2, 2022. On December 15, 2021, the Waco Division held a hearing to determine the proper construction of the disputed claim terms in U.S. Patent No. 6,829,691 (“the ’691 Patent”). Plaintiff Sonrai Memory Limited (“Plaintiff”) accuses Defendant Oracle Corporation (“Defendant”) of infringing various claims of the ’691 Patent. Defendant filed an opening claim construction brief (Doc #25), to which Plaintiff filed a responsive brief (Doc. #30), to which Defendant filed a reply brief (Doc. #32). The parties additionally submitted a Joint Claim Construction Statement (Doc. #38).¹ Having considered the parties’ arguments from the hearing and those presented in their claim construction briefs, having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the court will render a Claims Construction Order concurrent with this memorandum. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *see also Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

¹ Citations to the parties’ claim construction briefs and Joint Claim Construction Statement are to the Case Management/Electronic Case Files (Doc. #) and pin cites are to the pagination assigned through ECF.

I. OVERVIEW OF THE PATENT

The '691 Patent, titled "System For Compressing/Decompressing Data," was filed on June 28, 2002, and issued on December 7, 2004. At a high level, the '691 Patent discloses a system and method for compressing/decompressing data using a memory controller. '691 Patent at 2:32-36; 4:66-5:1-10. Unlike conventional systems that transfer both compressed and uncompressed data to and from compression/decompression logic via a single bus, the memory controller of the '691 Patent transfers data via two or more data busses, as shown by elements 135 in Figure 2 (right). '691 Patent at 1:34-45; 4:3-10. The '691 Patent teaches that "the effective rate at which the data is transferred across the busses may be doubled versus conventional methods, which may use a common bus for at least a

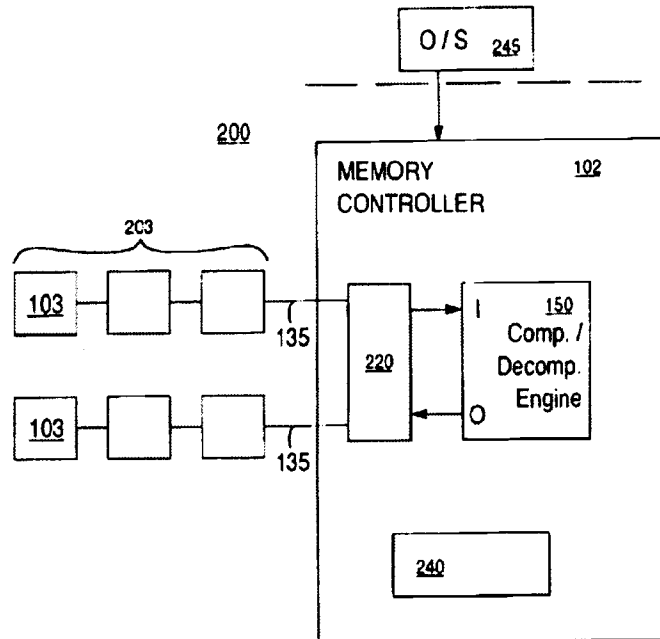


FIGURE 2

portion of the data transfer." *Id.* at 2:46-49. The Abstract of the '691 Patent states:

The present invention pertains to a system for performing data compression/decompression. The system may have a memory controller with compression/decompression logic. A first memory array may be coupled to the memory controller via a first bus and a second memory array may be coupled to the memory controller via a second bus. The system may also have logic for directing the transfer of data from the first memory array via the first bus to be processed by the compression/decompression logic and then transferred to the second memory array via the second bus.

There are three disputed claim terms. Independent claims 1 and 21 are reproduced below with the disputed terms in *italics*:

1. A system for compressing/decompressing data, comprising:
a memory controller having *compression/decompression logic*;
a first memory array coupled to said memory controller via a first bus;
a second memory array coupled to said memory controller via a second bus; and
logic for directing transfer of data from said first memory array via said first bus to
be processed by said compression/decompression logic and then transferred to
said second memory array via said second bus.

21. A system for compressing/decompressing data, comprising:
a memory controller having *compression/decompression logic*;
said compression/decompression logic having an input and an output;
a plurality of busses coupled to said memory controller, said busses having memory
coupled thereto;
selection logic coupled to said plurality of busses and to said
compression/decompression logic, said *selection logic for* selecting and
coupling a first of said busses to said compression/decompression input and
further for selecting and coupling a second of said busses to said
compression/decompression output; and
said system configured to transfer a first portion of data from a first memory
location in said memory via said first bus to said input while transferring a
second portion of said data to a second memory location in said memory via
said second bus from said output.

II. LEGAL PRINCIPLES

A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at

861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312-13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (quotation marks omitted) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) *cert. granted, judgment vacated*, 135 S. Ct. 1846 (2015).

“The claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)) *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Phillips*, 415 F.3d at 1314–15 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex*,

Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.*

The specification may also resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex, Inc.*, 299 F.3d at 1325. But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office ("PTO") and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1318; *see also Athletic Alts., Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be "unhelpful as an interpretive resource").

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are not helpful to a court. *Id.* Extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court has explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

Teva Pharm., 574 U.S. at 331–32.

B. Departing from the Ordinary Meaning of a Claim Term

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either

in the specification or during prosecution.”² *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Sols.*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Bos. Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

III. LEVEL OF SKILL IN THE ART

It is well established that patents are interpreted from the perspective of one of ordinary skill in the art. *See Phillips*, 415 F.3d at 1313 (“[T]he ordinary and customary meaning of a claim

² Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.”). The Federal Circuit has advised that the “[f]actors that may be considered in determining the level of skill in the art include: (1) the educational level of the inventors; (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) sophistication of the technology; and (6) education level of active workers in the field.” *Environmental Designs, Ltd. v. Union Oil Co. of California*, 713 F.2d 693, 696 (Fed. Cir. 1983). “These factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art.” *Daiichi Sankyo Co. Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

The parties dispute the qualifications of a person of ordinary skill in the art (“POSITA”). The parties appear to agree that a POSITA would have a “Bachelor’s degree in electrical engineering, computer science, or a related field” and at least three years in the field. *Compare* Dkt. No. 30-1 at ¶ 21 (Plaintiff’s expert decl.) *with* Dkt. No. 25-2 at ¶ 19 (Defendant’s expert decl.). The parties further agree that additional education could substitute for industry experience and that industry experience could substitute for formal education. *Id.* The parties disagree, however, on the field of art for industry experience. Defendant contends that a POSITA would have at least three years of experience in the field of designing computer systems. Dkt. No. 25-2 at ¶ 19. Plaintiff contends that a POSITA would have at least three years of experience related to computer memory systems and/or data compression. Dkt. No. 30-1 at ¶ 21.

As an initial matter, the court finds that the differences between the parties’ descriptions of a POSITA are not significant for the purposes of claim construction. Having considered the parties’ proposals and the factors that may be considered in determining the level of skill in the art, the court finds that a person of ordinary skill in the art would have a Bachelor of Science degree

in electrical engineering, computer science, or a related field and a working knowledge of the technologies implemented in “computer memory management . . . for performing data compression/decompression.” ’691 Patent at 1:6-9; 2:3-4.

IV. CONSTRUCTION OF DISPUTED TERMS

The parties dispute the meaning and scope of three terms or phrases in the ’691 Patent.

A. “compression/decompression logic”

Plaintiff’s Proposal	Defendant’s Proposal
logic that can compress or decompress data	logic that can compress and decompress data

1. Analysis

The term “compression/decompression logic” appears in claims 1 and 21 of the ’691 Patent. The parties’ dispute concerns the virgule or diagonal mark “/” between compression and decompression, specifically whether the virgule imposes an “and” or “or” requirement on the term. Plaintiff argues that the term’s construction should include “or” instead of “and” because “the patent teaches that ‘the term in-line compression/decompression *may be defined* as performing compression *or* decompression while data is en-route.’” Doc. #30 at 10 (quoting ’691 Patent at 3:46-49). Plaintiff contends that Defendant actively ignores this so-called “definitional statement.” *Id.* at 11. Plaintiff further argues that the claim terms “compression engine” and “decompression engine” in claims 17 and 15, respectively, “prov[es] that the invention encompasses logic that can perform either compression or decompression.” *Id.* at 11–12.

Defendant argues that “[i]n all disclosed embodiments of memory controllers in the ’691 patent specification, the ‘compression/decompression logic,’ and the ‘compression/decompression engine 150’ . . . performs both compression and decompression.” Doc. #25 at 10–11. Defendant argues “regardless of what the compression/decompression engine 150 *does* on any particular instance of the step, the compression/decompression engine 150 is able to perform both

compression and decompression.” *Id.* at 11. In other words, Defendant argues that the “compression/decompression logic” require logic that includes both compression and decompression capability.

At the outset, the court notes that both parties have offered extrinsic definitions in support of their positions. Plaintiff’s extrinsic definitions interpret the virgule as imparting an “and/or” meaning. *See, e.g.*, Doc. #30-4 at 4 (defining “virgule” as “a short diagonal line (/) used between two words to show either is applicable (and/or)”; Doc. #30-5 at 4 (defining “virgule” as “[a] diagonal mark (/) used esp. to separate alternatives, as in and/or”); Doc. #30-7 at 2 (“A codec compresses or decompresses media files . . . [s]ome codecs include both parts, and other codecs only include one of them.”). Defendant offers extrinsic definitions for the term codec, which Defendant contends is synonymous with the “compression/decompression logic” term. Doc. #25 at 12–13. Defendant’s extrinsic definitions interpret the term “codec” as requiring both compression and decompression capability. *See, e.g.*, Doc. #25-7 at 4 (defining “codec” as “[s]hort for compressor/decompressor. Hardware or software that can compress and uncompress audio or video data.”); Doc. #25-8 at 5 (“In multimedia, an algorithm that compresses audio, video, or graphics files for efficient storage or transmission, and then decompresses them for playback purposes.”). The court finds that the parties’ extrinsic definitions do not resolve the question of how the term “compression/decompression logic” should be construed in the context of the ’691 Patent. *Phillips*, 415 F.3d at 1318 (explaining that extrinsic evidence in general is less reliable than the patent and its prosecution history in determining how to read claim terms).

Turning first to the claims, the court finds that the claims do not impose a requirement that the “compression/decompression logic” include both compression and decompression logic. *See, e.g.*, ’691 Patent at cls. 1 and 21. Rather, the court finds that a POSITA would understand the

scope of “compression/decompression logic” to encompass logic capable of compression or decompression and also logic capable of compression and decompression. This understanding is confirmed by other claims that separately use the terms “compression engine” (claim 17) and “decompression engine” (claim 15). ’691 Patent at cl. 17 (“loading said uncompressed data into a *compression engine* within said memory controller from said first bus while unloading compressed data from said engine to a second bus coupled to said memory controller”) (emphasis added); *see also id.* at cl. 15 (“selecting said first bus and coupling said first bus to a *decompression engine* in said memory controller, wherein said data is transferred via said first bus to said decompression engine”) (emphasis added). Claims 15 and 17 demonstrate that the patentee contemplated implementations with logic capable of compression or decompression. *Id.* The court finds that a POSITA would not interpret “compression/decompression logic” as limited to logic that includes both compression and decompression. *Phillips*, 415 F.3d at 1314 (explaining that “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.”). Rather, a POSITA would understand the term, in the context of the ’691 Patent, to encompass logic that includes the capability to perform compression, decompression, or both.

This interpretation is confirmed by the specification. The specification describes the system as capable of both compression and decompression. *See, e.g.*, ’691 Patent at 3:42-43; 4:45-46. The specification also states that “the term in-line compression/decompression may be defined as performing compression *or* decompression while data is en-route.” *Id.* at 3:46-49 (emphasis added). Even if not a “definitional statement” as argued by Plaintiff, this description from the specification shows that the patentee did not intend to disclaim the broader plain and ordinary meaning of the virgule (“/”) and limit the phrase “compression/decompression logic” to logic that

requires both compression and decompression capability. *Continental Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (“To disavow claim scope, the specification must contain expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”) (citations and internal quotation marks omitted). Rather, the claims and the specification support an interpretation that encompasses compression, decompression, or both. *See, e.g.*, ’691 Patent at 5:11-13 (with respect to Figure 3 describing that “[i]n step 320, the data is processed (either compressed or decompressed) by the compression/decompression engine 150.”); 2:38-42 (“When the system is to perform a compression or a decompression of a unit of data . . . the system transfers the data . . . into the compression/decompression logic.”).

2. Court’s Construction

For the reasons set forth above, the Court construes the term **“compression/decompression logic”** to mean **“logic that can compress, decompress, or both.”**

B. The “logic for” terms

The “logic for” terms include two disputed phrases. Because the threshold dispute between the parties is the same—whether the terms are subject to means-plus-function interpretation in accordance with 35 U.S.C. § 112, ¶ 6³—the court addresses the “logic for” terms together. The first “logic for” term appears in independent claim 1 and recites:

logic for directing transfer of data from said first memory array via said first bus to be processed by said compression/decompression logic and then transferred to said second memory array via said second bus

’691 Patent at cl. 1 (reproduced *supra*). The parties’ claim construction proposals are as follows:

³ The court notes that paragraph 6 of 35 U.S.C. § 112 was replaced with 35 U.S.C. § 112(f) when the Leahy-Smith America Invents Act (AIA) took effect on September 6, 2012. Because the application that resulted in the ’691 Patent was filed before that date, the court refers to the pre-AIA version of § 112.

Plaintiff's Proposal	Defendant's Proposal
<p>Plain and ordinary meaning; not means-plus-function</p> <p>Alternatively, if means-plus-function:</p> <p><u>Function</u>: “directing transfer of data from said first memory array via said first bus to be processed by said compression/decompression logic and then transferred to said second memory array via said second bus”</p> <p><u>Structure</u>: memory controller or other logic (e.g., an operating system)</p>	<p>Means-plus-function under 35 U.S.C. § 112 ¶ 6 (pre-AIA)</p> <p><u>Function</u>: “directing transfer of data from said first memory array via said first bus to be processed by said compression/decompression logic and then transferred to said second memory array via said second bus”</p> <p><u>Structure</u>: indefinite</p>

The second “logic for” term appears in independent claim 21 and recites:

selection logic for selecting and coupling a first of said busses to said compression/decompression input and further for selecting and coupling a second of said busses to said compression/decompression output

’691 Patent at cl. 21 (reproduced *supra*). The parties’ claim construction proposals are as follows:

Plaintiff's Proposal	Defendant's Proposal
<p>Plain and ordinary meaning; not means-plus-function</p> <p>Alternatively, if means-plus-function:</p> <p><u>Function</u>: “selecting and coupling a first of said busses to said compression/decompression input” and “selecting and coupling a second of said busses to said compression/decompression output”</p> <p><u>Structure</u>: memory controller or other logic (e.g., an operating system)</p>	<p>Means-plus-function under 35 U.S.C. § 112 ¶ 6 (pre-AIA)</p> <p><u>Function</u>: selecting and coupling a first of said busses to said compression/decompression input” and “selecting and coupling a second of said busses to said compression/decompression output”</p> <p><u>Structure</u>: indefinite</p>

1. Analysis

The principal dispute between the parties is whether the “logic for” terms are subject to means-plus-function interpretation in accordance with 35 U.S.C. § 112, ¶ 6. Defendant argues that

the “logic for” terms should be construed as means-plus-function terms because they do not recite any structure, let alone sufficiently definite structure and because the “logic for” terms recite function without reciting sufficient structure for performing that function. Doc. #25 at 15, 21. Defendant further argues that if construed in accordance with 35 U.S.C. 112, ¶ 6, the “logic for” terms are indefinite because the specification fails to disclose sufficient corresponding structure for performing the claimed functions. *Id.* Plaintiff argues that the “logic for” terms do not invoke means-plus-function interpretation and that the terms do not otherwise require construction. Doc. #30 at 14, 21. Alternatively, if the “logic for” terms do invoke means-plus-function interpretation, Plaintiff argues that the terms are not indefinite because the specification discloses sufficient corresponding structure for performing the claimed functions. *Id.* at 19–21, 23–24. For the following reasons, the court finds that the “logic for” terms are not subject to § 112, ¶ 6 and that the “logic for” terms should be given their plain and ordinary meaning.

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson*, 792 F.3d at 1347–49, n.3 (Fed. Cir. 2015) (en banc in relevant portion). Means-plus-function claiming occurs when a claim term invokes 35 U.S.C. § 112, ¶ 6, which provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttal presumption that § 112, ¶ 6 applies when the claim language includes “means” or “step for” terms and that it does not apply in the absence of those terms. *Williamson*, 792 F.3d at 1348. “When a claim term lacks the word ‘means,’ the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Id.* (citations

and internal quotation marks omitted). To rebut the presumption, “[a] challenger need only show that the structure is not “sufficient.”” *Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1373 (Fed. Cir. 2020) (citing *TEK Glob., S.R.L. v. Sealant Sys. Int’l, Inc.*, 920 F.3d 777, 785 (Fed. Cir. 2019)). “The correct inquiry, when ‘means’ is absent from a limitation, is whether the limitation, read in light of the remaining claim language, specification, prosecution history, and relevant extrinsic evidence, has sufficiently definite structure to a person of ordinary skill in the art.” *Apple Inc.*, 757 F.3d at 1298; *see also Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, 649 F.3d 1350, (Fed. Cir. 2011) (“It is proper to consult the intrinsic record, including the written description, when determining if a challenger has rebutted the presumption that a claim lacking the term ‘means’ recites sufficiently definite structure.”).

The court’s analysis proceeds in two steps. First, the court must determine whether the “logic for” terms are in means-plus-function form pursuant to 35 U.S.C. § 112, ¶ 6. *See Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014). If the court determines that the “logic for” terms invoke § 112, ¶ 6, then the court proceeds to the next step and attempts “to construe the disputed claim term by identifying the corresponding structure, material, or acts described in the specification to which the term will be limited.” *Id.* (internal quotation marks and citations omitted).

At the outset, both parties recognize that the “logic for” terms do not recite the word “means” and that there is a rebuttal presumption that § 112, ¶ 6 does not apply. Doc. #25 at 15; Doc. #30 at 15. Defendant bears the burden of overcoming the presumption that § 112, ¶ 6 does not apply by a preponderance of the evidence. *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003). Defendant argues that the use of “logic” in the “logic for” terms is a “nonce” word that does not connote any particular structure, let alone sufficiently definite

structure, to a POSITA. Doc. #25 at 16, 22. The court disagrees. Courts have concluded in many instances that terms such as “processor,” “circuit,” and “logic” may connote sufficiently definite structure and are not “nonce” or “functional” terms that are automatically subject to the limitations of § 112, ¶ 6.⁴ In other words, whether recitation of “logic” for performing a function is governed by § 112, ¶ 6 depends on whether the stated objectives and operation of the logic connote sufficiently definite structure. *Linear Tech.*, 379 F.3d at 1320 (finding that “circuit [for performing a function]” was sufficiently definite structure because the claim recited the “objectives and operations” of the circuit.).

Defendant cites to *Egenera, Inc. v. Cisco Sys., Inc.* in support of its argument that “logic” is a “nonce” term that does not connote any particular structure or class of structures to a POSITA. 972 F.3d 1367, 1373; Doc. #25 at 18, 23. In *Egenera*, the Federal Circuit considered the term “logic to modify” where the patentee argued that “logic is a common term of art meaning software, firmware, circuitry, or [a] combination thereof.” *Egenera*, 927 F.3d at 1374. Contrary to Defendant’s argument, the Federal Circuit did not generally hold that the term “logic” is a generic substitution for “means.” Doc. #25 at 18, 23. Rather, the § 112, ¶ 6 analysis is case and context specific. *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007 (Fed. Cir. 2018) (explaining that the when evaluating whether a claim limitation invokes § 112, ¶ 6 the “determination must be made

⁴ See, e.g., *Linear Techs. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004) (“Thus, when the structure-connoting term ‘circuit’ is coupled with a description of the circuit’s operation, sufficient structural meaning will be conveyed to persons of ordinary skill in the art, and § 112 ¶ 6 presumptively will not apply.”) (citing *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003); *TecSec, Inc. v. Int’l Bus. Machs. Corp.*, 731 F.3d 1336, 1348 (Fed. Cir. 2013) (“[T]he term ‘digital logic’ designates structure to skilled artisans—namely digital circuits that perform Boolean algebra.”); *Clear Imaging Research, LLC v. Samsung Elecs. Co.*, No. 2:19-cv-326-JRG, 2020 U.S. Dist. LEXIS 202507, at *23 (E.D. Tex. Oct. 30, 2020) (“[T]he term ‘processor’ is accorded its customary meaning of a class of structures on which software can run.”).

under the traditional claim construction principles, on an element-by-element basis, and in light of evidence intrinsic and extrinsic to the asserted patents.”). In addressing the specific circumstances at issue in *Egenera*, the Federal Circuit held that “[a]s used, ‘logic’ is no more than a ‘black box recitation of structure’ that is simply a generic substitute for ‘means.’” *Egenera*, 927 F.3d at 1375 (quoting *Williamson*, 792 F.3d at 1350) (emphasis added).

Here, the context in which the term “logic” is used in the claims and the specification of the ’691 Patent provides sufficient structural meaning to a POSITA. For example, in addition to the “logic for” terms, “logic” is recited in the first element of claims 1 and 21: “a memory controller having compression/decompression *logic*.” See ’691 Patent, cls. 1 and 21 (emphasis added). The ’691 Patent discloses that the “compression/decompression logic . . . may be either hardware or software implemented.” ’691 Patent at 2:34-36. The court notes that Defendant does not take issue with the use of “logic” in the disputed term “compression/decompression logic.” In fact, both parties use the term “logic” in their proposed constructions of “compression/decompression logic,” thus indicating that in the context of the ’691 Patent “logic” has a sufficiently understood structural meaning to a POSITA. *Supra*.

The claims themselves connote sufficient structure by describing how the “logic for” terms operate within the claimed invention to achieve their objectives. For instance, claim 1 of the ’691 Patent recites “logic” that directs the transfer of data from a first memory array via a first bus to be processed by compression/decompression logic and that the data is then transferred to a second memory array via a second bus. See ’691 Patent at 6:10-13. To achieve its objectives, claim 1 requires that the “logic” must be operatively coupled to both the first memory array and the first bus. *Id.* For the same reasons, claim 1 further requires that the “logic” must be operatively coupled to both the second memory array and the second bus. *Id.* Indeed, claim 21 expressly recites that

the “selection logic” is coupled to a plurality of busses and to the compression/decompression logic. ’691 Patent at 7:42-43. Similar to claim 1, claim 21 further recites that the “selection logic” is for “selecting and coupling a first of said busses to said compression/decompression input and further for selecting and coupling a second of said busses to said compression/decompression output.” ’691 Patent at 8:1-4.

Defendant argues that the claims fail to describe how the claimed “logic” operates. Doc. #32 at 9-11. The court disagrees and finds that the context of claims 1 and 21 sufficiently conveys the operation and objectives of the “logic for” terms to connote sufficient structure to a POSITA. *Apple Inc.*, 757 F.3d at 1299 (“Structure may also be provided by describing the claim limitation’s operation, such as its input, output, or connections.”). The Federal Circuit has held that the term “circuit,” when accompanied by language reciting the circuit’s objective and operation in sufficient detail, connotes sufficient structure to avoid § 112, ¶ 6. *Linear Tech.*, 379 F.3d at 1320. Similarly, with the “logic for” terms at issue in claims 1 and 21, the court finds that the recited “logic” is coupled with sufficient description of the logic’s objective and operation to connote sufficient structure to a POSITA. That a POSITA would understand the structural limitations of the “logic for” terms from the claim language itself was recognized by Plaintiff’s expert. Doc. #30-1 at ¶¶ 50, 60.⁵ Thus, in the context of the ’691 Patent, a POSITA would understand that the claim

⁵ Defendant’s expert reached the opposite conclusion. Doc. #25-2 at ¶¶ 36, 42 (concluding that “logic” recited in the “logic for” terms “is a nonce [word/term] that does not connote any particular structure or class of structures to a POSITA.”). Given the totality of the evidence, the court disagrees and finds that the contextual use of the term “logic” in claims 1 and 21 of the ’691 Patent and the accompanying description in the specification provides sufficient structural meaning to a POSITA to avoid § 112, ¶ 6. This is further confirmed by the fact that Defendant does not contend that the term “compression/decompression logic” is subject to § 112, ¶ 6 and that both parties use the term “logic” in their proposed construction of the disputed claim term.

language recites sufficient structure and that the “logic for” terms are not generic black box recitations of structure or abstractions.

The specification further confirms that the “logic for” terms do not invoke § 112, ¶ 6. The specification describes the functional features of the “logic for” terms in connection with a memory controller or other logic, such as an operating system:

[T]he memory controller 102 or other logic (e.g., an operating system) may direct that data from a first memory array 103a be transferred to the memory controller 102, where it may be processed by the compression/decompression engine 150. For example, *the memory controller 102 may have logic to perform this function*. Then the memory controller 102 or other logic may direct that the processed data be transferred from the memory controller 102 to a second memory array 103b via the second bus 135b.

’691 Patent at 4:11-19 (emphasis added). An embodiment of the memory controller is depicted in Figure 2, which illustrates “selection logic 220” and “control logic 240.” ’691 Patent at Figure 2 (reproduced *supra*). The specification describes the arrangement, objectives, and operation of selection logic 220 and control logic 240 as follows:

The memory controller 102 is shown with selection logic 220 coupled to the compression/decompression engine 150 and to the data busses 135. In this fashion, the selection logic 220 is able to couple one of the data busses 135 to an input (I) of the compression/decompression engine 150 and another data bus 135 to an output (O) of the compression/decompression engine 150.

’691 Patent at 4:48-54.

[T]he control logic 240 may be for directing transfer of data from the one memory array 103 via one data bus 135 to be processed by the compression/decompression logic 150 and then transferred to another memory array 103 via another data bus 135.

’691 Patent at 4:61-65.

Defendant does not appear to dispute that the “memory controller” and “operating system” are disclosed as structural elements corresponding to the functional features of the “logic for” terms. Instead, Defendant argues that this description in the patent specification does not connote

any particular structure or class of structures to a POSITA. Doc. #25 at 17, 22. The court disagrees. The parties reached an agreed construction for “memory controller,” thus indicating that the term connotes sufficient structural meaning to a POSITA. Doc. #38 at 1 (agreeing that “memory controller” should be construed as “a circuit that issues electrical control and physical address signals to a memory that causes the memory to read or write data.”). Further, the parties’ experts agree that a “memory controller” was well-known to a POSITA when the application that resulted in the ’691 Patent was filed. Doc. #25-2 at ¶ 20 (“‘Memory controller’ is a term of art in the field of computer systems. This term was well-known to a POSITA at the time of the ’691 Patent.”); Doc. #30-1 at ¶ 25 (“In my opinion, ‘memory controller’ needs no construction because the term would have been (and is) well-understood to a POSA.”). In short, the ’691 Patent discloses that the structure associated with the functional features of the “logic for” terms may be a memory controller, and the parties agree that a memory controller was (and is) well-known to a POSITA. *Id.* Defendant has not provided a persuasive reason why the “logic for” terms, when read in light of the specification of the ’691 Patent, do not connote sufficient structure to a POSITA to avoid § 112, ¶ 6. *MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1342 (Fed. Cir. 2019) (“The ultimate question is whether the claim language read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6.”) (citations and internal quotation marks omitted).

Although the presumption against § 112, ¶ 6 is no longer “strong,” it is still a presumption that Defendant must affirmatively overcome. In the context of the ’691 Patent, the court finds that Defendant has not shown that the “logic for” terms invoke § 112, ¶ 6. Accordingly, the court rejects Defendant’s argument that these terms are means-plus-function terms governed by § 112, ¶ 6 and finds that no further construction is required.

2. Court's Construction

For the reasons set forth above, the “**logic for**” terms are not subject to means-plus-function interpretation and are given their **plain and ordinary meaning**.

V. CONCLUSION

The court adopts the constructions listed in the Claim Construction Order rendered on this day. Furthermore, the parties should ensure that all testimony that relates to the terms addressed in this memorandum is constrained by the court's reasoning. However, in the presence of the jury the parties should not expressly or implicitly refer to each other's claim construction positions and should not expressly refer to any portion of this memorandum that is not an actual construction adopted by the court. The references to the claim construction process should be limited to informing the jury of the constructions adopted by the Court.

SIGNED this 16th day of March, 2022.



LEE YEAKEL
UNITED STATES DISTRICT JUDGE